

X10631 – PR1-(DIN-F) Series-1 Phase Burst Fire Power Controller 1.5kW,3kW & 6kW DIN Mounting HVAC Range Installation Instructions



Issue 6

1 Functions

1.1 Over temperature protection

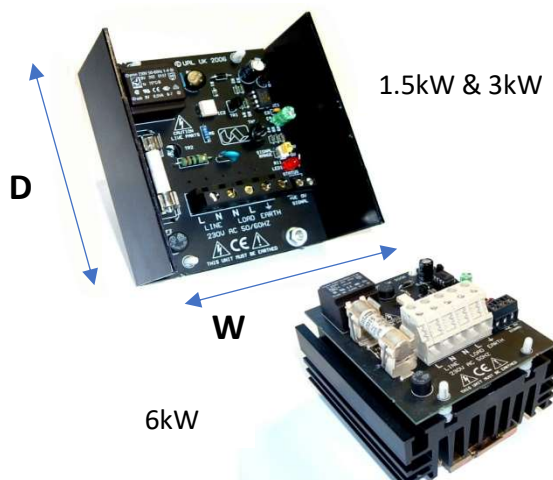
When heat sink temperature of above 90°C is detected by the sensor the LED pulses at 0.5 second on/off intervals. The power to the load will be disconnected and will not return until the temperature drops to 85°C.

1.2 Temperature sensor loss

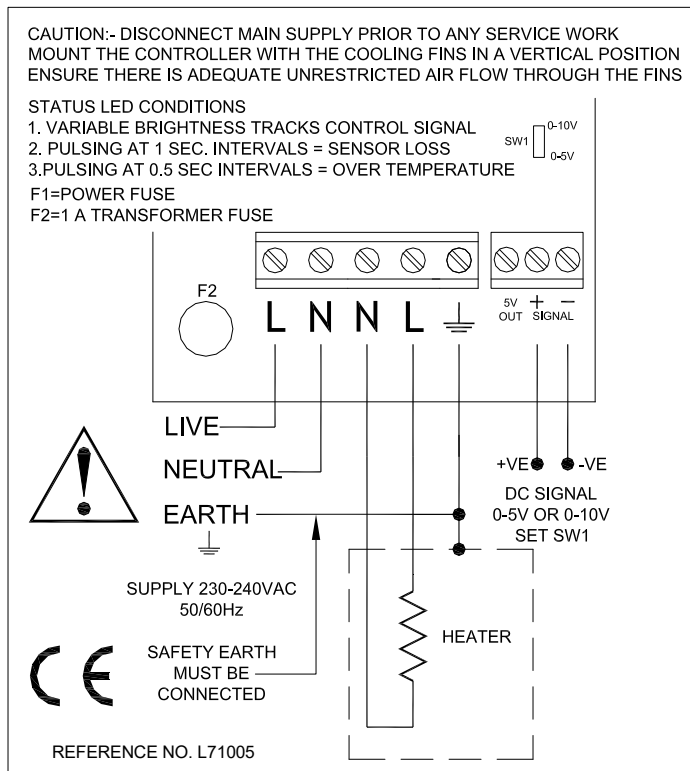
The LED pulses at 1 second on/off intervals if the sensor fails.

1.3 Safety Warning

1. This unit is supplied with a fail-safe fuse for unit protection. See SPECIFICATION/INSTALLATION sections for further details.
2. All HAZARDOUS LIVE terminals – . Isolate supply before commencing any installation work.
3. Unit must be secured on DIN rail using the DIN-rail fastening and installed in an additional enclosure/cabinet with adequate ventilation.



2 Connections



3 Installation

1.1 Cooling requirements

This robust stack assembly has an operational temperature of 65°C when naturally cooled and has a built in 90°C over temperature trip on the heatsink as a safety feature. The unit should be mounted vertically, with heatsink fins top to bottom, and with sufficient surrounding air space to maximise natural convection cooling. If the unit is mounted in an enclosure or cabinet, adequate ventilation and/or forced air-cooling should be fitted.

1.2 Load considerations

The PR-series of power controllers are designed for resistive type loads, e.g. Heaters. Unusual heating loads such as Molybdenum, Platinum or Tungsten have a typical, 10:1, hot to cold, resistance ratio and therefore, when cold, draw larger currents than normal. This range is fitted with a TRIAC power device.

1.3 Connections

This unit has simple clamp type terminal connectors for all auxiliary-wiring requirements.

Fastening

1.4 Fastening

The unit is secured by DIN-rail mounting feet for quick installation/removal

To secure protective Perspex cover fitting

Two 2.6mm holes are required for a No.4 x 6mm self-tap Pan-head screw. Hole centres are 8.5mm (H) x 50mm (L).



Optional cover details (6kW model only)

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4 Technical Specifications

Power/Current Ratings	1.5kW (6.3A), 3kW (12.5A), 6kW (25A) @ a typical supply of 240V RMS	
Input Voltage	230V RMS $\pm 10\%$	
Frequency	50/60Hz	
Control Input Signal	Signal: 0-10V DC (factory set) or 0-5V Manual: Manual Control (using 5K Ω potentiometer-NOT supplied)	
Status Indicator	(Tracking Control Signal) LED Indicator changes intensity	
Over Temperature	Trip in temperature @ 90°C $\pm 1^\circ\text{C}$ (LED indicator 'flashes' continuous fast pulsing)	
	Trip out temperature @ 85°C $\pm 1^\circ\text{C}$	
Sensor Loss Detection	LED indicator 'flashes' at 1 sec. on/off intervals.	
Cable Terminations	(6kW) - Power & Earth	4.0mm ² maximum cable entry
	(1.5 & 3kW) – Power & Earth	2.5mm ² maximum cable entry
	(All Models) - Control Signal	2.5mm ² maximum cable entry
Terminal Torque Settings	0.5Nm – for all power and earth terminals.	
Fusing	1.5kW	F10A (6mm \varnothing x 32mm) - ceramic quick blow type ferrule fuse
	3kW	F16A (6mm \varnothing x 32mm) - ceramic quick blow type ferrule fuse
	6kW	30A (10mm \varnothing x 38mm) - high-speed semiconductor type ferrule fuse
Working Temperature	65°C (maximum operational)	
Dimensions	1.5kW & 3kW	112mm (D) x 95mm (W) x 75mm (H) – includes DIN rail clip
	6kW	112mm (D) x 96mm (W) x 85mm (H) – includes DIN rail clip
	With Perspex fuse cover	112mm (D) x 96mm (W) x 87mm (H) – includes DIN rail clip and cover (supplied separately)
Fusing	1.5kW	
Fixing Centres	TS35 DIN rail mounting	
Weight	1.5kW & 3kW: 0.3kg	6kW: 0.7kg

5 Fusing

It is recommended that the specified type fuses (as supplied) be used as replacements for fail-safe protection. See SRA Data sheet X10255 for further information. Other external supplies should be fused accordingly.

6 CE Marking

This family carries a "CE" marking. These burst fire controllers do not normally require a remote filter. For more information contact our sales desk. A Declaration of Conformity is available on request.

7 Recommendations

Other documents available on request, which may be appropriate for your application:-

Code	Identity	Description
X10213	ITA	Interaction: Uses for phase angle and for burst fire control
X10255	SRA	Safety Requirements: Addressing the Low Voltage Directive (LVD) including, Thermal Data/Cooling, Live Parts Warning, Earthing Requirements and Fusing Recommendations
X10378	ILR	Inductive loads remedy sheet for use with Phase angle controllers
P01.1	COS	UAL Conditions of Sale

NOTE: It is recommended that installation and maintenance of this equipment should be done with reference to the current edition of the I.E.T. (formerly I.E.E.) regulations (BS7671) by suitably qualified/trained personnel. The regulations contain important requirements regarding installation and safety of electrical equipment. Specific installers should refer to local and national regulations.

8 Order Code

State part number

Part Number	A4072536-HV PR1-(DIN-F)-1.5kW, A407254-HV PR1-(DIN-F)-3kW, A407255-HV PR1-(DIN-F)-6kW
Optional Extras	M20090 KA100 heatsink cover (6kW model only), F80001 Fuse 'boot-type' cover (for 6mm x 32mm fuse)
Note: 1.5kW & 3kW models includes fuse 'boot-type' cover.	



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